IN THE CLAIMS

Please substitute the following amended claims for the corresponding original claims. A marked copy of the claim amendments is attached hereto.

44. (amended) A method of etching a substrate comprising a silicon-containing material having a plurality of dopant concentrations or dopant types, the method comprising:

placing a substrate comprising a silicon-containing material having a plurality of dopant concentrations or dopant types in a process chamber;

in a first etch step, providing in the process chamber, an energized gas formed from a first process gas comprising fluorine-containing gas, chlorine-containing gas and sidewall-passivation gas, the volumetric flow ratio of the combined volumetric flow rate of the fluorine-containing and chlorine-containing gas to the volumetric flow rate of the sidewall-passivation gas being from about 1:1 to about 10:1, wherein the volumetric flow ratio is selected such that the plurality of dopant concentrations or dopant types in the silicon-containing material are etched at etch rates that vary by less than about 5%; and

in a second etch step, providing in the process chamber, an energized gas formed from a second process gas comprising HBr.

47. (amended) A method of etching a substrate comprising a silicon-containing material having a plurality of dopant concentrations or dopant types, the method comprising:

placing a substrate comprising a silicon-containing material having a plurality of dopant concentrations or dopant types in a process chamber;

in a first etching stage, providing in the process chamber, an energized gas formed from a first process gas consisting essentially of a fluorine-containing gas, a chlorine-containing gas and a sidewall-passivation gas in a volumetric flow ratio selected to etch the plurality of dopant concentrations or dopant types at etch rates that vary by less than about 5%; and

In a second etching stage, providing in the process chamber, an energized gas formed from a second process gas comprising HBr, Br_2 or CH_3Br.

50. (amended) A substrate etching method comprising;

placing a substrate comprising a silicon-containing material in a process chamber, and

etching the silicon-containing material by providing in the process chamber, an energized gas formed from a process gas comprising CF_4, chlorine-containing gas and sidewall-passivation gas.

51. (amended) A method according to claim 50 wherein the silicon-containing material comprises a plurality of dopant concentrations or dopant types, and wherein the volumetric flow ratio of the CF_4, chlorine-containing gas, and sidewall-passivation gas is selected to etch the plurality of dopant concentrations or dopant types at etch rates that vary by less than about 5%.

56. (amended) A substrate etching method comprising:

placing a substrate comprising a silicon-containing material in a process chamber; and

etching the silicon-containing material by providing in the process chamber, an energized gas formed by coupling RF or microwave energy to a process gas comprising fluorine-containing etching gas, chlorine containing etching gas comprising one or more of Cl_2 and HCl, and sidewall-passivation gas comprising a gas other than the fluorine-containing etching gas.

57. (amended) A method according to claim 56 wherein the silicon-containing material comprises a plurality of dopant concentrations or dopant types, and wherein the volumetric flow ratio of the fluorine-containing etching gas, chlorine-containing etching gas, and sidewall-passivation gas is selected to etch the plurality of dopant concentrations or dopant types at etch rates that vary by less than about 5%.

62. (amended) A substrate etching method comprising:

placing a substrate comprising a silicon-containing material in a process chamber; and

etching the silicon-containing material by providing in the process chamber, an energized gas formed from a process gas comprising CF_4, Cl_2 and N_2.

63 (amended) A method according to claim 62 wherein the silicon-containing material comprises a plurality of dopant concentrations or dopant types, and wherein the volumetric flow ratio of CF_4, Cl_2 and N_2 is selected to etch the plurality of dopant concentrations or dopant types at etch rates that vary by less than about 5%.

67. (amended) A substrate etching method comprising:

placing a substrate comprising a silicon-containing material in a process chamber; and

etching the silicon-containing material by providing in the process chamber, an energized gas formed from a process gas consisting essentially of CF_4, Cl_2 and N_2.

68. (amended) A method according to claim 67 wherein the silicon-containing material comprises a plurality of dopant concentrations or dopant types, and wherein the volumetric flow ratio of CF_4, Cl_2 and N_2 is selected to etch the plurality of dopant concentrations or dopant types at etch rates that vary by less than about 5%.

Please add the following new claims:

72. (new) A substrate etching method comprising;

placing the substrate in a process chamber;

in a first etching stage, providing in the process chamber, a first energized gas formed from a first process gas comprising CF_4, chlorine-containing gas and sidewall-passivation gas; and

in a second etching stage, providing in the process chamber, a second energized gas formed from a second process gas comprising a bromine-containing gas.

73. (new) A method according to claim 72 wherein the bromine-containing gas comprises HBr, Br_2 or CH_3Br.

74. (new) A method according to claim 72 wherein the bromine-containing gas comprises HBr.

75. (new) A method according to claim 72 comprising at least one of the following characteristics (i) the chlorine-containing gas comprises one or more of Cl_2 or HCl; or (ii) the sidewall-passivation gas comprises one or more of nitrogen, hydrogen or carbon monoxide.

76. (new) A substrate etching method comprising:

placing the substrate in a process chamber; and

in a first etching stage, providing in the process chamber, a first energized gas formed by coupling RF or microwave energy to a first process gas comprising fluorine-containing etching gas, chlorine-containing etching gas, and sidewall-passivation gas comprising a gas other than the fluorine-containing etching gas; and

in a second etching stage, providing in the process chamber, a second energized gas formed from a second process gas comprising bromine-containing gas.

77. (new) A method according to claim 76 wherein the bromine-containing gas comprises HBr, Br_2 or CH_3Br.

78. (new) A method according to claim 76 wherein the chlorine containing etching gas comprises one or more of Cl_2 and HCl.

79. (new) A method according to claim 78 wherein the bromine-containing gas comprises HBr.

80. (new) A method according to claim 76 comprising at least one of the following characteristics (i) the fluorine-containing etching gas comprises one or more of NF_3, CF_4 or SF_6; or (ii) the sidewall-passivation gas comprises one or more of nitrogen, hydrogen or carbon monoxide.

81. (new) A substrate etching method comprising

placing the substrate in a process chamber; and

providing in the process chamber, an energized gas formed from a process gas consisting essentially of CF_4, Cl_2 and N_2, wherein the volumetric flow ratio of the combined volumetric flow rate of CF_4 and Cl_2 to the volumetric flow rate of N_2 is from about 1:1 to about 10:1.

82. (new) A method according to claim 81 further comprising a second etching stage in which an energized gas formed from a second process gas comprising bromine-containing gas is provided in the chamber.